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Serial Number 10/696,034

REMARKS

Reconsideration of the application is respectfully requested for the following reasons:

1. Amendments to Claims

Claim 1 has been amended to include the reporting step originally recited in claim 2. In addition, claims 1, 3-13, 15, 25-32 and 34 have been amended to emphasize that the curve fitting and reporting operations are carried out by a network node rather than by a central entity to which the network node reports. New claims 44-46 recite that tracking, adjusting, and reporting is carried out by more than one communication node (rather than "at least one" communication node), and/or that arrival curve parameter reports are received from more than one communication node.

According to the invention as recited in each of the independent claims, curve fitting is carried out by network nodes rather than the central entity, the network nodes reporting the results of the curve fitting "adjusted arrival curve parameters" rather than just raw arrival curve data. This allows a complete assessment of SLA compliance (by having as many nodes as desired report traffic flow in real time) while minimizing overhead by minimizing the amount of traffic flow information that needs to be transmitted to the entity that carries out the compliance assessment (the "central entity" or Network Management System (NMS)).

The recitations of the network node carrying out the curve fitting operations and reporting only the results of the curve fitting to distribute processing (and minimize overhead) is disclosed throughout the original specification, including for example paragraph [35], which states that:

... **individual interconnected (104) communications network nodes 102, . . . export 106 directly to the NMS 110, arrival curve parameters *only*, each arrival curve providing substantially complete information about a corresponding content traffic flow monitored. . . . Computing arrival curves at communications network nodes 102 distributes processing over the entire communications network.**

Accordingly, the amendments to the claims do not involve "new matter."

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2. Rejection of Claims 1, 2, 4-22, 24, 25, 27-41, and 43 Under 35 USC §102(e) in view of U.S. Patent Publication No. 2004/-255151 (Mei)

This rejection is respectfully traversed on the grounds that the Mei publication fails to disclose or suggest:

- monitoring network traffic at least one communications node (as opposed to sensors 109, 110, which do not appear to be at a communications node);
- the communications node carrying out adjustment of characteristic arrival curve parameters in fitting an arrival curve to the variation of cumulative content arrivals (Mei does not disclose any sort of curve fitting, much less curve fitting *by the network nodes* as opposed to central enforcing system 111 to which the sensors are connected; and
- the communication node reporting the adjusted arrival curve parameters to a central entity, as recited in claims 1 and 25, or receiving the adjusted arrival curve parameters from the communication node as recited in claim 12.

Even if the SLA enforcing system 111 of Mei could be interpreted as a communication node, there is no disclosure in Mei of SLA enforcing system 111 not only performing curve fitting, but also reporting the results of the curve fitting to another central entity as recited in claims 1 and 25, much less of the network node reporting only the results of the curve fitting, as recited in claims 2 and 12, thereby enabling monitoring of traffic flow through the network while minimizing the overhead involved in such monitoring.

The various passages cited in the Official Action as teaching the claimed curve parameter adjustment have been reviewed, and none of the passages teaches such adjustment, or any sort of curve fitting operations. Instead, Mei only discloses rule comparisons, which can be carried out by curve fitting or by other methods such as thresholding. There are no implicit or explicit teachings in Mei of either *"tracking cumulative content arrivals, in real time, for the content traffic flow to derive a time variation of cumulative content arrivals"* or *"adjusting characteristic arrival curve parameters in fitting an arrival curve to the variation of cumulative content arrivals for the content traffic flow."* Nothing in the Mei publication anticipates such curve fitting steps.

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Moreover, even if Mei did somehow teach the claimed curve fitting of time variations in cumulative content arrivals (which it does not), **Mei would still not anticipate basic principles of the claimed invention**, namely that the SLA assessment is carried out by a central entity while the traffic flow data used in the assessment is collected by network nodes, the network nodes being arranged not only to send the traffic flow data back to the central entity, but to actually process the data by characterizing it in terms of characteristic curve parameters. The transmission of curve parameters rather than the raw data used to derive the curves is not an arbitrary design choice, but results in the specific advantages, relative to the prior art, of distributing the curve fitting processing overhead throughout the network (*i.e.*, to each of the nodes performing the data collection), and of minimizing the amount of data that needs to be transmitted back to the central entity or NMS.

In Mei, sensors and not communication nodes collect the traffic data, while the processing of the data is carried out not by the sensors but by the enforcing system 111. Therefore, Mei does not teach the claimed curve-fitting by the communication nodes. Since the enforcing system 111 of Mei apparently also assesses the data, there is no possible need for reporting curve data in the manner claimed, and therefore Mei also does not disclose or suggest the claimed reporting of adjusted curve parameters (much less reporting only adjusted curve parameters). Therefore, the Mei patent does not anticipate the claimed invention, and withdrawal of the rejection of claims 1, 2, 4-22, 24, 25, 27-41, and 43 under 35 USC §102(e) is respectfully requested.

3. Rejection of Claims 3 and 26 Under 35 USC §103(a) in view of U.S. Patent Publication Nos. 2004/-255151 (Mei) and 2003/0135609 (Carlson)

This rejection is respectfully traversed on the grounds that the Carlson publication, like the Mei publication, fails to disclose or suggest having at least one communications node carrying out adjustment of characteristic arrival curve parameters in fitting an arrival curve to the variation of cumulative content arrivals, the communication node reporting the adjusted arrival curve parameters to a central entity, as recited in claims 1 and 25, from which claims 3 and 26 depend.

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To the contrary, the only reports sent in the cited passage in the Carlson publication are messages from a service monitor to a service provider concerning outages and whether transaction rates fall below a threshold (see Figs. 16a, 16b, and 17). The messages are not sent by the communication nodes themselves, but rather by a central service monitor, and the messages do not include curve fitting parameters, as claimed. In fact, like Mei, Carlson does not disclose tracking of content arrivals, deriving a time variation of cumulative arrivals, or fitting an arrival curve to the variation, much less sending reports in the form of adjusted curve parameters resulting from the curve fitting, and therefore the Carlson publication, whether considered individually or in any reasonable combination with the Mei publication, could not possibly have suggested the claimed invention, and therefore withdrawal of the rejection under 35 USC §103(a) is respectfully requested.

Having thus overcome each of the rejections made in the Official Action, withdrawal of the rejections and expedited passage of the application to issue is requested.

Respectfully submitted,

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